

$$\begin{bmatrix} Q_{11} & Q_{12} & \bullet & \bullet & Q_{1Na} \\ Q_{21} & Q_{22} & \bullet & \bullet & Q_{2Na} \\ \bullet & \bullet & \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet & \bullet & \bullet \\ Q_{Na1} & Q_{Na2} & \bullet & \bullet & Q_{NaNa} \end{bmatrix} \begin{bmatrix} \lambda_{11} & 0 & \bullet & \bullet & 0 \\ 0 & \lambda_{22} & \bullet & \bullet & 0 \\ \bullet & \bullet & \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet & \bullet & \bullet \\ 0 & 0 & \bullet & \bullet & \lambda_{NaNa} \end{bmatrix} \begin{bmatrix} Q_{11}^* & Q_{12}^* & \bullet & \bullet & Q_{Na1}^* \\ Q_{21}^* & Q_{22}^* & \bullet & \bullet & Q_{Na2}^* \\ \bullet & \bullet & \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet & \bullet & \bullet \\ Q_{1Na}^* & Q_{2Na}^* & \bullet & \bullet & Q_{NaNa}^* \end{bmatrix} = R_{xx}$$

Eigenvector (Q) and Eigenvalue (λ) representation of the R_{xx} covariance matrix

FIGURE 3

$$\sum_{k=1}^{N_{sigs}} U_{rx}^{new}(k, ns)^* \frac{1}{\sqrt{\lambda^{new}(k, k)}} Q_{rx}^{new}(1:Na, k)^* \approx \sum_{k=1}^{N_{sigs}} U_{rx}^{old}(k, ns)^* \frac{1}{\sqrt{\lambda^{old}(k, k)}} Q_{rx}^{old}(1:Na, k)^*$$

FIGURE 5

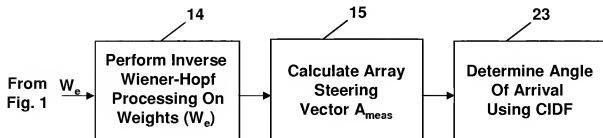


FIGURE 6